of their *ſmalneſs*, 3. The *difficulty of finding* the deſired point, and of *placing* it ſo, as to reflect the *light conveniently* for the Inquiry, Laſtly, ones being able to view it but with *one eye* at once, they will appear no ſmall *obſtructions*, nor are they eaſily *remov'd* without many *contrivances*. But to proceed, I could not find that water, or ſome *deeply ting'd* liquors would in ſmall ones riſe ſo high as one would expect; and the *higheſt* I have found it yet riſe in any of the pipes I have try'd, was to 21 *inches* above the level of the water in the veſſel: for though I found that in the ſmall pipes it would *nimbly enter* at firſt, and run about 6 or 7 *inches* upwards; yet I found it then to move upwards *ſo ſlow*, that I have not yet had the *patience* to obſerve it above that height of 21 *inches* (and that was in a pretty *large Pipe*, in compariſon of thoſe I formerly mentioned; for I could obſerve the *progreſs* of a *very deep ting'd liquor* in it with my *naked eye*, without much trouble; whereas many of the *other pipes* were ſo *very ſmall*, that unleſs in a *convenient poſture* to the light, I could not perceive *them*:) But 'tis very probable, that a greater *patience* and *aſſiduity* may diſcover the liquors to *riſe*, at leaſt to remain *ſuſpended*, at heights that I ſhould be loath now even to *gheſs* at, if at leaſt there be any *proportion* kept between the height of the aſcending liquor, and the *bigneſs of the holes* of the pipes.

An Attempt for the Explication of this Experiment.

My Conjecture, *That the unequal height of the ſurfaces of the water, proceeded from the greater preſſure made upon the water by the Air without the Pipes* A B C, *then by that within them*; I ſhall endeavour to confirm from the truth of the two following *Propoſitions*: Schem. 4. Fig. 1.

The firſt of which is, *That an unequal preſſure of the incumbent Air, will cauſe an unequal height in the water's Surfaces.*

And the ſecond is, *That in this experiment there is ſuch an unequal preſſure.*

That the firſt is true, the following *Experiment* will evince. For if you take any Veſſel ſo contrived, as that you can at pleaſure either *increaſe* or *diminiſh* the *preſſure* of the Air upon this or that part of the *Superficies* of the *water*, the *equality* of the height of thoſe parts will preſently be *loſt*; and that part of the *Superficies* that ſuſtains the *greater preſſure*, will be *inferior* to that which undergoes the *leſs*. A fit Veſſel for this purpoſe, will be an inverted Glaſs *Syphon*, ſuch an one as is deſcribed in the *Sixth Figure*. For if into it you put Water enough to fill it as high as *A B*, and gently blow in at *D*, you ſhall *depreſs* the Superficies *B*, and thereby *raiſe* the oppoſite Superficies *A* to a *conſiderable height*, and by gently *ſucking* you may produce clean *contrary* effects.

Next, That there is ſuch an *unequal preſſure*, I ſhall prove from this, *That there is a much greater incongruity of Air to Glaſs, and ſome other Bodies, then there is of Water to the ſame.*